NAVISTAR, INC
DEFECT INFORMATION REPORT

TO: Manager
Engine Programs Group (6405J)
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

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The following Defect Information Report is submitted in accordance with 40 CFR §1068.501.
This report addresses a defect affecting the vehicle air conditioning system, specifically the air conditioning compressor.
In addition, this report closes the associated Investigation Report 2015 3rd QTR_19000029.

[40 CFR §1068.501(d)(1)] MANUFACTURER CONTACT INFORMATION

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[40 CFR §1068.501(d)(2)] DEFECT DESCRIPTION

A leak in the air conditioning system results in a loss of the system refrigerant (freon) charge, a reduction of the compressor lubricant (oil) level, and may also introduce air and contaminants into the system.
Operating the compressor with a reduced refrigerant charge and/or contaminated system increases internal temperatures, increases wear of the internal pistons, valves and bearings, and may result in failed internal components and a seized compressor. Most of the compressor failures can be attributed to operation with a reduced refrigerant charge level.
An incorrect initial refrigerant charge, which is below or above the system requirement can also result in this type of compressor failure. A smaller population of compressor failures can also be attributed to a seized compressor clutch, which will not allow the compressor to engage. The compressor clutch can also fail as a result of an undercharged refrigerant level. Undercharged refrigerant levels cause excessive cycling of the compressor clutch, which can lead to clutch failures.
Several manufacturing and product improvements have been implemented to address these compressor failures.
Updated assembly tools with improved torque control have been introduced for the fastening of the air condition tubes and hoses. Initial refrigerant fill processes have been updated to reduce human error in the selection of the refrigerant level quantities at the vehicle plants.
In addition, a pressure/temperature sensor has been implemented, which deactivates the compressor when the operating pressure and/or temperature exceed the design limits, thus preventing the compressor failure when operating with an incorrect refrigerant charge level. An updated compressor with an improved clutch design has been also implemented.
The improved clutch design exhibits a 40% improvement in fatigue life cycle testing.

[40 CFR §1068.501(d)(3)] DESCRIPTION OF VEHICLES/ENGINES AFFECTED

GHG Vehicle Family Name	Model Year	Vehicle Plant Ship Dates
FNVX2TRACIXM	2015	2014

[40 CFR §1068.501(d)(4)] NUMBER OF ENGINES ESTIMATED TO HAVE DEFECT

GHG Vehicle Family Name	Number of Vehicles Affected	Total US Production	Percent of Family Affected
FNVX2TRACIXM	171	1,573	10.9%

[40 CFR §1068.501(d)(5)] EVALUATION OF EMISSIONS IMPACT

A seized compressor has no effect on the environment.
Seized compressors are predominantly caused by the operation of the compressor with a reduced refrigerant charge level, most often due to a refrigerant leak. For systems with a leak path, this leak will result in refrigerant loss to the atmosphere.
There is no effect on the environment for systems with incorrect initial refrigerant charge.
In addition, air conditioner compressor clutch failures have no effect on the environment.

[40 CFR §1068.501 (d)(6)] ANTICIPATED MANUFACTURER FOLLOW-UP

There is no anticipated manufacturer follow up.

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